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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,489	07/16/2003	Raymond W. Blasingame	15436.114.5	9071
22913	7590	03/17/2005		
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			EXAMINER PAK, SUNG H	
			ART UNIT 2874	PAPER NUMBER

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/620,489	Applicant(s) BLASINGAME ET AL.	
	Examiner Sung H. Pak	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1103, 0304</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

Information disclosure statements filed 11/17/2003 and 3/03/2004 have been considered by the examiner.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “fiber tip” that is “extending out from the optical fiber ferrule” as claimed in claims 25-26 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. See 37 CFR 1.83.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claim 8 is objected to because of the following informalities: the claim recites “and optoelectronic element”. This is believed to be an inadvertent typo. The recitation should read “an optoelectronic element”. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-24, 27-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Gilliland et al (US 6,283,644 B1).

Gilliland discloses an optical device with all the limitations set forth in the claims, including: a metal barrel (also referred to as a ‘metal housing’ or it can be referred to as a ‘support structure’; ‘1100’ Fig. 15; column 20 lines 25-28); a non-metallic sleeve (‘1000’ Fig. 13-14) having a slit along a length of the sleeve (‘1002’ Fig. 13-14) and a strip of metallization adhered to an external surface of the sleeve along the length of the sleeve, in which the metallization secures the sleeve with respect to the metal barrel (‘1110’ Fig. 19; column 22 lines 55-62); an optical fiber ferrule insertable in the sleeve (‘1400’ Fig. 22); an optoelectronic

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element housing, containing a Vertical Cavity Surface Emitting Laser (VCSEL), attached to the barrel (Fig. 2, Fig. 7; column 3 lines 21-22); wherein the sleeve expands with flex-like resistance upon an insertion of the optical fiber ferrule and holds the ferrule in position relative to the barrel (the outside diameter of the ferrule is slightly greater than the inside diameter of the split sleeve, so as to provide flex-like resistance: column 21 lines 11-18); wherein the sleeve maintains an alignment between the optical fiber ferrule and the optoelectronic element (column 21 lines 43-46); wherein the sleeve holds the inserted optical fiber ferrule having a fiber tip (column 9 lines 19-21); and the sleeve maintains a set alignment between the optoelectronic element and the fiber (column 21 lines 43-46); wherein the optical fiber is a single mode fiber (column 18 lines 56-59).

Regarding claims 20, 35, Gilliland fully anticipates the optoelectronic element being a detector because Gilliland explicitly states that the disclosed device is an “optical transceiver” (column 1 line 18), and that the optoelectronic element may be a “photodiode” (column 1 line 24).

Regarding claims 31-37, since Gilliland fully discloses all the claimed structure of the optical device, it also anticipates the method of providing such optical structure as claimed in claims 31-37.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilliland et al (US 6,283,644 B1).

Gilliland discloses an optical device with all the limitations set forth in the claims as discussed above, except it does not explicitly teach the use of a single mode laser.

However, the use of single mode lasers, especially single mode VCSEL lasers, is well known and common in the optical transmission art. Single mode VCSEL lasers are advantageously used in the art to provide a high-transmission rate light source, with data transmission rate greater than 1.25Gbps. High transmission rate is considered desirable in the art because it improves the transmission efficiency of the optical transceiver device.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the Gilliland device to use single mode VCSEL laser.

Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilliland et al (US 6,283,644 B1) in view of Hashimoto et al (US 2002/0150356 A1).

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Gilliland discloses an optical device with all the limitations set forth in the claims as discussed above, except it does not explicitly teach the use of a fiber tip that is extending out from the optical fiber ferrule.

On the other hand, Hashimoto explicitly teaches an optical module comprising an optical fiber tip that is extending out from the optical fiber ferrule (Fig. 1B, Fig. 2A-2B). Hashimoto explains that this configuration is advantageous over the prior art because it allows the formation of fiber tip lens which allows better and more effective optical coupling between the optical fiber and the optoelectronic device (paragraph 0051). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the Gilliland device to have optical fiber tip that extends out from the optical fiber ferrule.

### ***Conclusion***

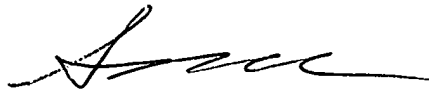
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakanishi et al (US 2005/0036745 A1), Itabashi et al (US 2005/0036740 A1), Rosenberg et al (US 2004/0247255 A1), Sato et al (US 2003/0169978 A1), Slater et al (US 2002/0172471 A1), Watanabe et al (US 5,661,834) disclose optical coupling assemblies utilizing split sleeves for receiving optical fiber ferrule.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday- Friday, 9AM-5PM.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sung H. Pak  
Examiner  
Art Unit 2874

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